

## CLAIMS

1           1.       A method of electroacoustical transducing comprising  
2           controlling audio electrical signals to be provided to a pair of electroacoustical  
3           transducers of an array to achieve directivity and acoustic volume characteristics that are  
4           varied with respect to a parameter associated with operation of the array, the controlling of  
5           the signals resulting in a change in the radiated acoustic power spectrum of the array as the  
6           characteristics are varied, and

7           compensating for the change in the radiated acoustic power spectrum of the array.

1           2.       The method of claim 1 in which the compensating for the change in the  
2           acoustic power spectrum comprises maintaining the radiated relative acoustic power  
3           spectrum substantially uniform.

1           3.       The method of claim 1 in which the compensating occurs prior to the  
2           controlling.

1           4.       The method of claim 1 in which the change in the acoustic power spectrum  
2           resulting from the controlling of the signals is predicted, and the compensating is based on  
3           the predicting.

1           5.       The method of claim 1 in which the compensating is based on a volume level  
2           selected by a user.

1           6.       The method of claim 1 in which the compensating is based on a signal level  
2           detected in the controlled audio electrical signals.

1           7.       The method of claim 1 in which the controlling comprises reducing the  
2           amplitude of one of the audio electrical signals for higher acoustic volume levels.

1           8.       The method of claim 7 in which the controlling comprises combining two  
2           components of an intermediate electrical signal in selectable proportions.

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1           9.       The method of claim 1 in which the controlling of the audio electrical signals  
2 comprises adjusting a level of one of the signals over a limited frequency range.

1           10.      The method of claim 1 in which controlling the audio electrical signals  
2 includes processing one of the signals in a high-pass filter and processing the other of the  
3 signals in a complementary all-pass filter.

1           11.      Electroacoustical transducing apparatus comprising  
2 an input terminal to receive an input audio electrical signal, and  
3 a plurality of electroacoustical transducers in an array  
4 circuitry constructed and arranged to generate two related output audio electrical  
5 signals from the input audio signal coupled to said electroacoustical transducers of an array,  
6 and to achieve predefined directivity and acoustic volume characteristics that are varied with  
7 respect to a parameter associated with operation of the array and to compensate for a change  
8 in acoustic power spectrum of the array that results from the controlling of the signals.

1           12.      The apparatus of claim 11 in which the circuitry comprises a dynamic  
2 equalizer.

1           13.      The apparatus of claim 12 in which the dynamic equalizer includes a pair of  
2 signal processing paths and a combiner to combine signals that are processed on the two  
3 paths.

1           14.      The apparatus of claim 12 in which the circuitry is also constructed and  
2 arranged to compensate for the change based on a volume level.

1           15.      An electroacoustical transducer array comprising,  
2 a source of related electrical signal components  
3 a plurality of electroacoustical transducers driven respectively by said related  
4 electrical signal components,  
5 an input terminal to receive an input audio electrical signal, and  
6 circuitry constructed and arranged to generate two related output audio electrical  
7 signals coupled to said electroacoustical transducers of an array, to control the two related  
8 output signals to achieve predefined directivity and acoustic volume characteristics that are

varied with respect to a parameter associated with operation of the array, and to compensate for a change in radiated acoustic power spectrum of the array that results from the controlling of the signals.

16. The apparatus of claim 15 in which the circuitry comprises a dynamic equalizer.

17. The apparatus of claim 16 in which the dynamic equalizer includes a pair of signal processing paths and a combiner to combine signals that are processed on the two paths.

18. The apparatus of claim 15 also comprising a second input terminal to carry a signal indicating a volume level for use by the circuitry.

19. A sound system comprising,  
a source of related electrical signal components,  
a pair of electroacoustical transducer arrays, each of the arrays comprising  
a plurality of electroacoustical transducers driven respectively by said related  
electrical signal components, and  
an input terminal to receive an input audio electrical signal; and  
circuitry constructed and arranged to generate two related output audio electrical  
signals coupled to said electroacoustical transducers of an array, to control the two output  
signals to achieve predefined directivity and acoustic volume characteristics that are varied  
with respect to a parameter associated with operation of the array, and to compensate for a  
change in acoustic power spectrum of the array that results from the controlling of the  
signals.

20. The electroacoustical transducing apparatus in accordance with claim 11  
wherein said array comprises first and second closely spaced loudspeaker drivers having their  
axes angularly displaced by substantially 60 degrees.